**Assignment 6**

Submit:

* **Python code**
* **Evidence that it ran (parts a-c)**
* **Evidence that the PostgreSQL table contains the data, either by submitting a query through psycopg2 or by using psql as in the previous assignment and submitting the typescript file**

I recommend using x2go for connecting and the Spyder editor (under Programming) for writing Python programs. **You can also do this assignment on your home computer if you install all the necessary libraries and a PostgreSQL database.** You will need to import the following libraries:

import numpy

import pandas

import matplotlib

import psycopg2

a) (1 points) Create a tuple

thistuple = ("apple", "banana", "cherry")

and retrieve the element with the index 1

b) (1 points) Load the data from train.csv making sure to provide the correct path. The print the first 10 rows using the below syntax

df = pandas".read\_csv("/home/first.last/train.csv")

print(df.head(10))

c) (1 points) Show a histogram of LoanAmount using 20 bins. Example of similar type of histogram: df['ApplicantIncome'].hist(bins=50)

d) (7points) Import the database interaction library psycopg2. Create a table in the PostgreSQL database that matches the content of the dataframe df (this can be done using psql). Insert the content of df into the table you created. The second portion should be done using Python with psycopg2. You can find more documentation at:

<https://www.psycopg.org/docs/usage.html> and more details in the tutorial at <https://www.postgresqltutorial.com/postgresql-python/>

**Do an SQL query of the table in PostgreSQL and submit evidence that it ran. This could be a screenshot or a typescript file**